



# **Energy Division Program Summaries**



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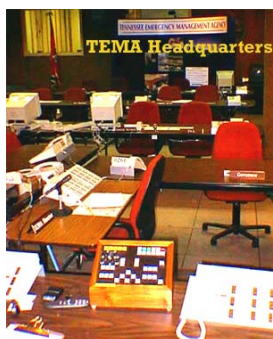
**Local Government Energy Loan Program** - The LGELP is a revolving loan available to local government entities to implement energy conservation projects. The maximum loan is \$500,000 and loan payments are made annually over a period of seven years. Interest rates are 3% for local governments for the entire term of the loan. This program was converted from a grant program in the spring of 1991. To date, applications requesting \$12,986,236 in assistance have been received and 69 loans have been approved for a total of \$11,953,039. The total cumulative energy savings from these projects thus far is \$11,063,369 and the economic benefit of paid loans is \$5.71 per each dollar lent.



**Small Business Energy Loan Program** - The SBELP is a revolving loan available to small businesses of less than 300 employees or \$3.5 million in annual gross receipts. The maximum loan amount is \$100,000 at 3% for a period of up to seven years. Loans must be used for the implementation of energy efficiency measures on existing structures. Since the inception of the program, 348 applications have been received, of which 279 have been approved. Of these, 232 have been funded in the amount of \$ 9,062,125. There are loans in 59 Tennessee counties.



**Merchant Plant Demonstration Program** - The Merchant Plant Demonstration Program is a two-year demonstration program that was established by Executive Order 31 on March 20, 2002. The program was a recommendation of the Governor's Energy Policy Work Group which was set up in the summer of 2001 to develop a comprehensive state energy policy. The purpose of the program is to examine the economic and environmental impacts of proposed merchant electric generating plants. Four approved applicants will be issued "A Certificate To Proceed" to allow the applicant to proceed with the permitting process and negotiate for power transmission with power line providers. Since the inception of the program, two applications for a certificate have been issued.



**Tennessee Energy Emergency Plan** - The Energy Division's legislation established an energy emergency program to encompass the activities pertinent to energy emergency preparedness. The program has been an integral part of the Energy Division since its inception. In fact, the energy crises of the 1970's provided the impetus for establishing the Tennessee Energy Authority (now the Energy Division). One of its first undertakings was the development of an early version of a motor fuel contingency plan to provide alternative methods for addressing fuel shortages within the state.

**State Energy Program (SEP)** - The SEP is an annual grant from the DOE to state energy agencies for the purpose of administering and conducting projects that promote energy efficiency in all segments of society. There have been a wide variety of these activities over the years. Current elements of the SEP include the following program initiatives:





**Tennessee Energy Education Network** - TEEN promotes energy education in grades K-12 statewide. TEEN develops and distributes energy educational materials for teachers, students and classrooms, conducts in-service training workshops for teachers and classroom presentations for students, conducts annual energy contests, energy education training conferences for students, publishes a bimonthly newsletter, and maintains a website on the program for teachers and students.



**Energy Emergency Planning** - The Energy Division established Energy Emergency Planning as a component of the SEP, incorporating the division's original energy contingency activities and establishing a network of organizations and activities relative to emergency planning. The program also includes the development of a Geographical Information System (GIS) administered by ECD's Local Planning Offices, which provides infrastructure information necessary for optimal energy emergency preparedness. The primary goal of the Energy Division/Local Planning Assistance Office's GIS project has been to develop a digital cartographic base capable of geographically locating a wide range of information suitable for emergency preparedness, local planning, and other management applications.



**Industries of the Future** - In 2002, Tennessee signed a Memorandum of Understanding with the DOE for the Industries of the Future program and Allied Partnerships with ALCOA, Saturn, University of Tennessee, and Tennessee Technological University. The Tennessee industries eligible for this program account for nearly 97,600 jobs or 19.6 % of Tennessee's employment and nearly 60% of Tennessee's manufacturing economy. The program's energy impact after one sample energy assessment identified savings of more than \$1.5 million per

year for that industry. Partners among our university teams are solving industrial problems achieving meaningful solutions for our manufacturers reducing energy costs and emissions and improving profitability.



**Energy Efficient Building Codes Program** - In the early part of 2003 the process of upgrading the energy efficiency code from the 1992 Model Energy Code to the 2000 International Energy Conservation Code (IECC) with 2001 amendments will begin. This changeover must be done through the legislative process with a target effective date of July 1, 2003. The Energy Division contracted with the Southface Energy Institute to conduct a series of three additional residential & commercial energy

code training workshops which include a one-day workshop on renewable energy technologies that are viable for use in Tennessee. The first workshop in this series was held in Nashville on November 12, 13 and 14, 2002.



**Clean Cities Program** - The Clean Cities Program is sponsored by the U.S. Department of Energy and was created to advance the use of cars and trucks powered by alternative fuels, which in turn reduce our nation's dependence on imported petroleum. The program promotes the purchase of alternative fuel vehicles and

the expansion of the AFV-refueling infrastructure. The Energy Division is providing administrative grant funding to the cities of Nashville and Knoxville to assist them in seeking designation from DOE as clean cities under the federal program.



**Million Solar Roofs Program** - The Million Solar Roofs (MSR) is a DOE-sponsored initiative to promote the utilization of solar energy. Tennessee was accepted as a Million Solar Roofs partner on April 22, 2002 by committing to the eventual installation of 500 solar energy generation systems by the year 2010. The Tennessee Partnership is composed of many subpartners, including the Tennessee Valley Authority. Subsequent to being accepted as a national partner, the Energy Division entered into an agreement with the Southern Alliance for Clean Energy (SACE) to organize, promote and coordinate the MSR Initiative in Tennessee.



**Energy Star Program** - Energy Star is a voluntary program sponsored by the U.S.

Department of Energy (DOE) and the Environmental Protection Agency (EPA). This federal partnership strives to increase consumer awareness and desire for energy efficient products. The EPA also provides unbiased technical information, support services, public relations assistance, and access to a broad range of resources and tools. The State Energy Division recently became a partner in this program and is currently promoting Energy Star efficiency standards in K-12 public schools on a statewide basis. The promotion is being done through the Local Government Energy Loan Program which can lend local governments/schools up to \$500,000 to install energy efficiency measures in their buildings.



**Trees for Tennessee** - This is the second year for the Trees for Tennessee project.

The program is coordinated in partnership with the Governor's Three Star Community Development program and the Tennessee Forestry Division. The program offers communities and small cities the chance to improve air quality and reduce energy consumption and CO2 production in a voluntary greenhouse gas emissions reduction strategy. Grants of up to \$3000 per community are being provided to plant trees on public property.



**Public Outreach/Multi-Media Center** - The public outreach program targets small businesses, local governments, and residential energy users with a series of measures that help them to make informed energy decisions. These measures include self-help publications that contain current information on energy data and practical energy conservation techniques and technologies, a

toll-free energy hotline and information center for energy users seeking energy information and direct correspondence that promotes the economic advantages of energy conservation. The Multi-Media Center makes available computer technology and technical assistance to ECD staff for their design and development of multimedia projects.

**Grants Management** - The primary objective of this program is to maximize the technology transfer and energy savings potential of the State Energy Program (SEP) grant, Petroleum Violation Escrow (PVE) funds, and other competitive grant funds through program planning, management, and implementation of the program monitoring function. The program monitoring responsibilities include tracking the accomplishment of budgeting goals and milestones against baselines established in the state plan; identifying and analyzing program accomplishments or problems; developing and initiating corrective action; analyzing performance of contractors, subcontractors, and subgrantees in regard to contract provisions; and tracking corrective or follow-up activity.

**Special Projects** - In recent years, the DOE has awarded funds competitively in a variety of energy categories. Last year the Energy Division was awarded five grants out of ten submitted. These funds are in addition to the regular funding given by the DOE for implementation of the State Energy Program (SEP). Current Special Projects are listed below:





### **Rebuild America/Building Technologies in Higher Education** -

The "Energy Action Plan for Tennessee Buildings" was produced in 1999 by the State Building Energy Management Program (SBEM) in partnership with DOE's Rebuild America Program. The purpose of the new Rebuild America/Building Technologies in Higher Education Program as funded by the DOE is to aggressively market representatives from institutions of higher education and to provide guidance for the creation of facility-specific energy management plans. The grant for this program from the DOE is for \$75,000 with a state match of \$25,000 from the State Building Energy Management Program. The contract to perform work under this program is with the University of Tennessee and started on October 1, 2002.



### **Multi-State Energy Codes Training Program** -

The Multi-State Energy Codes Outreach and Training Project is a two-year, \$150,000 per year multi-state (Tennessee, Kentucky, Georgia and North Carolina), effort funded by the U.S. Department of Energy under its 2002 Special Projects cycle. It is a continuation of an earlier grant received from DOE under its 2000 Special Projects funding cycle.

The project is designed to provide updated training materials, workshops, and outreach on residential and commercial energy codes with particular emphasis placed on the 2000 International Energy Conservation Code. Kentucky will act as the coordinator of the project which will provide a readily accessible, innovative training tool for advancing energy codes among the many organizations involved in the construction industry.



### **Wind Prospecting in The Tennessee Valley Region** -

Wind Prospecting in The Tennessee Valley Region is a two-year \$125,000 joint Energy Division, Tennessee Valley Authority and Appalachian State University project funded by the U.S. Department of Energy under its 2002 Special Projects cycle. \$75,000 is being provided by the US Department of Energy and the balance (\$50,000) by the Tennessee Valley Authority and Appalachian State University. The purpose of the project is to assess the wind generating potential of various high altitude sites in eastern Tennessee. Several

sites will be surveyed and identified using topographical maps, truewind mesoscale modeling, TVA mesoscale modeling and existing wind data.



### **IOF Forest Products Industry** -

Support for the Tennessee wood products industry, the nation's leading producer of hardwood flooring, will be enhanced through this new IOF Special Project. A new partnership with the University of Tennessee will estimate and improve the current state of energy efficiency and product quality of hardwood drying facilities in Tennessee. This primarily involves identifying new technologies that reduce drying costs and thus generate energy savings.



### **Distributed Energy Technologies/Bipolar Plate Fuel Cells**

Tennessee received a DOE Special Project grant under Distributed Energy Technologies for fuel cell manufacturing. This project will examine the manufacturing issues associated with nitride protected metal bipolar plates and to demonstrate technical feasibility and commercial viability by performance evaluation in an operating fuel cell stack. To accomplish this a partnership between ORNL, Tennessee Technological University (TTU), University of Minnesota (UM), and Dana Corporation has been formed.



### **Superconducting Direct Current Electrical Transmission**

**Cables** - This Special Project will select a site for installation of a high temperature dc current superconducting cable, then analyze feasibility of electric power transport in Tennessee via dc superconducting cable. Once the technological activities of this project have been completed, recommendations and a plan of action will be developed.